DOCUMENT RESUME

ED 227 748 HE 015 986

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TITLE Student Workloads: An Entree to the Literature. Occasional Paper, Number 3, Spring 1979.
INSTITUTION Deakin Univ., Geelong (Australia). Centre for Educational Services.
PUB DATE 79
NOTE 26p.
PUB TYPE Information Analyses (070) -- Collected Works - Serials (022)
JOURNAL CIT Open Campus; n3 Spr 1979

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *College Students; *Courses; *Credits; *Foreign Countries; Higher Education; Institutional Research; Student Attitudes; Student Problems
IDENTIFIERS *Australia; *Course Load; New Zealand

ABSTRACT

Recent Australian and New Zealand studies on college student workload are reviewed. Most of the studies have viewed workload questions in the broader context of arrangements for teaching, learning, and assessment. A Monash University, Australia, study assessed the total amount of work done by students, the distribution of study time between structured and unstructured work, and students' opinion about the amount and distribution of work. Additional Australian studies include a University of Queensland study that evaluated the relationship between student load in a subject and the credit point value of the subject. A Canterbury University, New Zealand, study calculated the mean hours of work completed by students and identified courses contributing to workload problems, while a Waikato University, New Zealand, survey established the range of assessment workloads operating for individual university students. Additionally, the student associations at the University of Otago and the University of Victoria, New Zealand, surveyed students concerning workload problems and the use of in-term assessment. Other studies are reviewed, and findings are listed that indicate wide variations in workload. Workload study questions and additional issues pertaining to workload are also identified. (SW)

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STUDENT WORKLOADS:
AN ENTREE TO THE LITERATURE

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and

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Deakin University
Geelong, Australia
1979

Open Campus

Occasional Papers published by
the Centre for Educational Services,
Deakin University, Geelong

Number 3, Spring 1979

.... research findings in education have a dual function. They stimulate other research workers to seek the missing evidence and they also act as an irritant to 'conventional wisdom', challenging the validity of existing practices which may have become habitual. Education is inherently conservative. Change in higher education, though conspicuous at the institutional level, is almost imperceptible where it relates to teaching and learning.

Entwistle, N.J. and Wilson, J.D. (1977:158)

Focus

Some three years ago when Deakin was setting out to develop learning materials for its off campus studies programs, there was great debate about the amount of work students could be expected to do or, if you like about the workload a university course should generate. Opinions varied enormously. The nearest agreement was found in some measure of acceptance of the Open University notion that a full credit course at the institution should require, on average, some 10-12 hours of work a week from the student. It could scarcely be called a definitive statement but at least it was a guide.

With 28 courses developed, it is timely to ask what workload Deakin courses require of students in actual fact. Accordingly, the Centre for Educational Services is conducting a workload study to answer this and related questions.

It began in the traditional way with a literature survey, the writing of a research proposal, the development of a questionnaire, pretesting and then the study proper. As the literature was examined it became clear that the area of student workloads is by no means an easy one to research effectively.

The present paper is essentially a background paper which summarises what has been done in recent Australian and New Zealand studies. It does not include all studies, a number of which are regarded as confidential to client department or faculties. It also shows that the results of a number of studies must be treated with caution particularly because of low response rates.

This paper will be followed in the next volume of Open Campus by one which outlines the design and management of the study, including particularly, the population studied, instruments used, response rates, and the results of the initial computer analysis using the SPSS package. Further more detailed reports will be published as the analysis proceeds.

Introduction

Although workload studies go back as far as the 1920s, the last decade or so has seen an emerging interest in the question of student workloads in Australian universities. In part, perhaps this was due to increased student concern in the late sixties and early seventies about the quality of the education they were receiving. Student demands for a voice in the decision making processes of universities often reflected an unwillingness to accept without protest the right of academics to design courses without consulting the consumer, to rely on final examinations as the major form of assessment and to set workloads which students considered unreasonable. As well there was concern among academic staff about the role and purpose of the University, the quality of life and work within the University community, and what was often seen as a decline in intellectual and academic standards.

These concerns of staff and students may be set within the broader context of increasing public disenchantment with higher education, competition between and confusion within the various sectors of post secondary education and government restrictions on growth in student numbers and institutional finances. Government sponsored reports on tertiary education are numerous and new statutory authorities have been set up to resolve the problems now apparent.

Almost all universities now attempt to monitor and evaluate their activities by studying such things as the effectiveness of their teaching methods, assessment procedures, selection practices, and admission criteria, problems of transition from school to university, student attrition, and student workloads. At Deakin University a number of these studies are being undertaken in collaboration with the schools of the University and with other tertiary institutions.

Questions and issues:

An examination of the literature shows that researchers have been concerned with a variety of questions and issues such as the following:

- variations and inconsistencies in workload requirements between courses (subjects)
- the expectations of teaching staff about the amount of work that students should do
- the distribution of work when courses are selected from more than one discipline, and the student has to rationalise the differing demands of several departments or faculties
- distinguishing between the actual workload generated by a course and the pressure a student may experience as a result of that workload
- distinguishing between what a student believes he does or says he does and what he actually does
- the extent to which students take account of expected workloads when selecting courses
- workload problems generated by continuous assessment
- the extent to which averages are useful when talking about workloads
- variations from week to week in workloads required of students
- the extent to which the level of student effort is a product of social forces rather than of course requirements
- the part played by inefficient study techniques in causing workload problems
- identifying the particular areas in courses which are presenting students with workload difficulties
- the amount, rhythm, place and circumstance of student workloads
- student attitudes towards, and opinions about, the amount and distribution of work required of them

- workload difficulties generated by the semester system
- workload problems generated by the attitude aspirations and anxieties of the student rather than the demands of the course

This list is by no means exhaustive, but it is at least useful in indicating that the question of student workload goes well beyond the simple quantitative aspects of how much time a student spends in study.

The task of measuring student workloads with any degree of precision is thwart with a number of conceptual and methodological problems. Not only is it exceedingly difficult to substantiate claims that workloads are 'unreasonably heavy' or 'too light', but there is the further problem pointed out by Roe of disentangling amount of work, attitude towards it, and ability to cope with it, whether or not the amount can be measured.

In addition, there is the problem, more fully canvassed later in this report, of teaching framework within which students operate and the wide spectrum of student learning styles.

A student's ability to cope with a certain level of work is dependent on different kinds of interacting factors. For example, there are presage variables such as:

prior achievements
cognitive capacity
entry knowledge/skills
disposition

and process variables including:

attitudinal characteristics - positive/negative
number and kinds of resources consulted
time allocated to the completion of the task
perceived relevance of the task

Just as individual differences may affect the teaching methods by which individual students learn best, so there may be important variations affecting the appropriateness of study methods. One has only to consider, for example, the adjustment difficulities faced by the tertiary entrant coming from the familiar environment of the secondary school. The transition from what is often regarded as a controlled, highly structured, teacher dependent, and examination oriented system to an uncertain and impersonal learning milieu and to a geographic locality, possibly distant from the student's high school or home, may make considerable demands on the student. Compounding this are the doubts which seem to be common about the appropriateness of the course(s) selection in terms of what are often ill defined intellectual and vocational interests. (Jones et al 1976, Wankowski 1977 and Powell 1979).

For many students these changes entail an alteration to their styles of working and to their study techniques. Accordingly, a distinction needs to be made between ability, cognitive style, time and effort. (Bligh 1975).

Genesis

A number of investigations concerning student workload have been published in Australia by tertiary teaching units. In the main, the genesis of this type of research can be traced to the estimates of workload documented in the

Hale Report on 'University Teaching Methods in Great Britain' (1964), and the Passmore Report on 'Teaching Methods in Australian Universities' (1965), as well as Miller's (1970) reviews of studies of success, failure and wastage of students in higher education.

The Hale and Passmore Reports drew attention to the need to differentiate between prescribed instructional contact hours, independent study and extra-curricular activities in considering overall student workloads. The median number of hours worked by students responding to the survey was 36.7 hours per week, although variations were reported among different faculties:

Arts	35.2 hours
Pure Science	37.7 hours
Applied Science	39.3 hours

and between Honours (37.1 hours) and Pass students (33.9 hours).

The British Report expressed concern that too much of students' time was devoted to receiving instruction and attending laboratories, leaving too little time for reading and extra-curricular activites. Similar concerns were echoed in the Passmore Report, although discussion focussed on questions of policy and on the problems caused by a multiplicity of departments making claims on students' time. Miller (1970) devoted attention to the problem of study habits and work organisation, and in so doing argued that it is the allocation of time to academic and extra-curricular activities and the extent to which this time is used effectively rather than the activities themselves which need to be considered in measuring student workload.

More recently, the Higher Education Advisory and Research Unit (HEARU) at Monash University developed a series of 'research questions' on the workload issue.

1 How does the amount and distribution of work imposed upon the student or undertaken by him compete with the other demands on his life?

2 How far do the expectations of staff and the response of students coincide with respect to the amount and distribution of work?

3 How far do staff and students accept the present distribution of work over contact hours, preparation and follow-up, assignments, means of assessment, and general study as ideal and how far do they regard them merely as more or less successful adjustment to the restricted conditions under which both staff and students teach and learn?

4 Where exactly are difficulties occuring in students' courses, and what reasons do those indifficulty suggest for them?

5 What is the effect of the 'unitisation' of courses, the semester system and the consequent means of assessment of the students' resources and time and energy?

6 What is the relationship between total amount of work and examination results, taking other factors into account such as sex of students, their initial ability measured by university entrance mark, and the particular course and stage of studies in which they are engaged and secondly, between different distributions of work and examination results?

(Ryan 1972:3-4)

At the outset it was recognised that the utility of this approach lay in the flexible use of questions and issues to suit any particular project. At no stage was it envisaged that an individual study would seek to explore all the issues enunciated within the Ryan framework, but rather would select aspects according to the particular purpose of the exercise. So far, a series of workload investigations have been conducted at Monash with the research formulations paying explicit or implicit attention to this framework.

Australian Studies of Workload

Scope, Sample Size, and Survey Instruments

In preparing this section an attempt has been made to achieve a balance on the one hand between recalling salient aspects of the studies reviewed - for the purpose of conveying their antecedents, orientations, preferred methodologies and outcomes to a wider audience - and, on the other hand recognising the inherently domestic nature of the problem areas investigated and issues of confidentiality. Many of these reports have been specific to faculties, schools or departments and remain the property of the initiators: professional review panels, teaching methods units, and assessment committees. The intention of this section is to condense a large literature into a convenient compass, and in so doing, to provide the reader with an overview of the field. Some discontinuity has been unavoidable.

Monash:

Monash University investigations represent a useful starting point for this outline. The first studies conducted by HEARU in consultation with the relevant faculty committees, were faculty specific and sought to illuminate different facets of the problem. The 'Faculty of Arts (1972)' commissioned what Ryan labelled as a 'normative-type study' requiring the definition of standard situations, as distinct from an enquiry designed to identify areas in which workload difficulties were arising. The major purpose of the study was to ascertain how much work the teaching staff might reasonably expect of students and how that work could be best allocated to satisfy the requirements of a number of relatively autonomous departments within the faculty. The research design made use of aspects of the program devised by Ryan.

The particular research questions asked were:

1 What is the total amount of work done by students through contact hours and assignments, and how does the student distribute his study time between work structured in this manner and unstructured work (or general preparation for his/her course)?

2 What is the amount, rhythm and quality of the students' work, set in the total context of his/her daily life?

3 What is the students' opinion about the amount and distribution of work and what changes would he/she like to see made?

(Clift and Thomas 1973:451)

Students were selected for the sample in proportion to the most common courses taken by students within a year level. The sample included 170 students from each of first, second and third years, and 116 from fourth year, making a sample of 626 out of a total population of some 2,000 students.

On the other hand 'The Science Faculty (1972)', favoured what Ryan termed a 'problem oriented' approach; the study concentrating on areas in which workload difficulties were arising. An attempt was made initially to identify those courses or units of study in which workload difficulties were apparent. Having identified these areas an attempt was made to investigate the factors which might be contributing to the workload problem, to enable remedial action to be taken.

Arising out of the broad objective statement for the project were a series of specific research questions:

1 What is the average weekly workload of full-time students in each of the three years of the B.Sc. degree?

2 Does the average weekly workload depend on the type of course for which a student is enrolled?

eg. How does the workload of a student studying two 303 subjects compare with the workload of a student studying a single 301 subject?

3 What do students regard as a reasonable average workload for their courses each week?

4 Is there a difference in workloads in first and second semesters?

5 What do staff regard as a reasonable average workload for students in each year of the B.Sc. degree? How does this compare with student estimates?

6 What do students consider represents a reasonable workload in individual subjects, and how does this compare with their estimates of their actual workload?

7 What do staff consider represents a reasonable workload in individual subjects, and how does this compare with student estimates?

8 How do the figures for average weekly workload for students in the Science faculty compare with figures for students in other faculties.

9 In which subjects/units do students consider they have workload problems?

10 What is the relation between workload (ie. number of hours worked) and examination performance?

11 What specific causes do students consider contributed to perceived workload difficulties in individual subjects.

(Thomas 1974:4-5)

Approximately 2,200 students participated in the study, with an 83% return on the questionnaire, representing roughly 85% of full time students surveyed and 60% of part timers.

Smaller studies, using a problem-oriented approach, in preference to the normative procedure, have been conducted in the post graduate 'Master of Environmental Science' course and the 'Law Faculty' at Monash (1973). The Law Faculty study consisted of a survey population of 350, with again an unsatisfactory response for part timers (45%). This study also included a course evaluation component.

Macquarie, Newcastle, and the University of New South Wales:

At Macquarie the Academic Senate requested the Education Committee to initiate a workload study among the staff and students of the University (1976). The study was designed to provide information concerning the relationship between credit points and hours worked by students. The staff questionnaire was circulated through Heads of School to all staff members in charge of courses an offer in the first half of 1976. In all, 275 questionnaires were mailed to academic staff, of which 255 (92.72%) were used for analysis. The student questionnaire and diary were mailed to a sample of 1,000 internal BA undergraduate students. The sample was chosen randomly from the undergraduate arts population, excluding honours and external students. Usable questionnaire return was 35.1% of the survey group sampled (351). Only those respondents returning both the questionnaire and a diary were used in the study numbering 314 or 31.4% of the total sample.

The Newcastle and New South Wales studies were confined to smaller groups of students. The former, carried out by the Higher Education Research and Services Unit (1975), examined workloads of second and third year Engineering students and sought to provide information about a number of problems related to the frequent failure of second year Engineering students in a core mathematics unit. The final report, compiled in May 1976, canvassed a wide range of topics including the teaching and assessment practices adopted by the faculty. Questionnaires were administered to all second and third year students who attended classes in the final week of first term. Questionnaire returns (full time and part time) among second years in the departments of Metallurgy, Electrical, Chemical, Civil and Mechanical Engineering, were reported as 125, for third year students 81, making a total of 206.

The New South Wales study (1973) was restricted to an assessment of the workload of students enrolled in second year mathematics. The investigation was carried out by a staff member of the Tertiary Education Research Centre in consultation with members of the School of Mathematics Standing Committee and, in Monash terms, was problem oriented. A total of 259 students, or 85% of the students in the three classes involved, completed the questionnaire, administered in class, of whom 84% were full time and 16% part time. The major proportion of students (48%) were in the Faculty of Engineering, a further 32% in the Faculty of Science/Biological Sciences, 12% in Arts/Commerce, and 7% in Vocational Studies (B.Sc(Ed)).

Griffith:

The Griffith Study (1977) was commissioned by the School of Counselling Sub-Committee of the School of Australian Environmental Studies and executed by the Centre for the Advancement of Learning and Teaching (CALT). Members of this sub-committee had expressed concern that some second and third year courses carried a heavier assessment load than others and that his apparent inconsistency was causing problems. At the request of this sub-committee an investigation into workload problems being experienced by students in a "representative range of second and third year courses" was carried out. The study used three samples from this school. The first sample comprised volunteers who compiled work study diaries for two weeks (4 second year and 16 third year students). The second sample consisted of the total second and third year student population in the school to whom questionnaires were administered. Response rates were 39% and 37% respectively. The final group comprised individual and group interviewees. The interview group numbering 27, was chosen by random selection using a class list and a table of random numbers.

Queensland:

The University of Queensland re-organised the teaching year from a traditional three term system to a two semester academic year at the beginning of 1974. At the request of the Education Committee of the Professorial Board, the Tertiary Education Institute was commissioned to investigate the relationships between student load in a subject and the credit point value of the subject. Officially one credit point is equated with one hour of work per week for a semester so that for a ten-point subject the 'average' student is expected to work a total of ten hours a week (including formal contact sessions). The Committee attempted to determine whether the suggested study time expectation was reasonable and whether the credit point value of subjects matched the hours of study they required of students.

A survey of 82 subjects offered at first year level was conducted during the four weeks, May 20 - June 16, 1974. Equal probability sampling methods were applied in selecting the participants for the survey. The overall response rate was 78.2%, 3718 usable returns being received out of a sample of 4,755.

The questionnaire asked students to:

a provide general background information

b record the number of contact hours scheduled

c indicate to the nearest half hour the total amount of time allocated during the week, to a number of study activities including rewriting lecture notes, revising notes, general reading, tutorial preparations and assignments

d isolate the main reason for choosing to undertake the subject

e record whether the teaching staff had indicated the number of hours they expected students to allocate in studying the subject

f identify, from a list of possible explanations, the main criterion on which subjects are assigned a credit point value.

The accent of the second report compiled by the Tertiary Education Institute is on students drawn from a variety of courses. This study attempted to assemble data about students' study patterns over a substantial portion of the semester. In addition, it investigated the workload problem from the perspective of pressures and associated stresses. Further, as well as collecting data about hours of work, this study addressed itself to matters such as students' impressions about the appropriateness of the load. In all, 361 students were asked to participate in the survey of whom 73 students declined, leaving an original survey population of 288 students. During the investigation some wastage occurred and the final report examined the workload of 262 students enrolled in 17 different courses in 1975. To ensure that the final sample represented students enrolled in the more common subject combinations, students were selected from each of the courses with a full time enrolment of 100 or more in proportion to the number of students enrolled in each course. Diaries were distributed to participants and were designed to show the amount of time students spent each week attending formal classes and in private study in each subject.

The four categories for type of study were:

a work for assignments and for tests

b work associated with classes (eg. tutorial, preparing laboratory reports, practicum write-ups)

c work in preparation for end of semester exams

d other work in the subject

(Foster and Biggs 1975:2)

Items (c) and (d) were later collapsed into the category 'general study' when it was found that students had experienced problems in discriminating between categories (c) and (d). A total of 222 students (77.1%) returned all diaries. Interviewers met each week with approximately fourteen students and obtained information from students regarding their levels of interest and motivation in each subject, their perceptions of their workloads, their study patterns, and the amount and timing of assessment over the period surveyed. Limited case studies were also included in the report.

The Tertiary Education Institute, at the request of the Education Committee of the Professional Board, undertook a further survey of the workloads of different student populations in 1976. It follows the two workload studies already discussed. Unlike these earlier studies this investigation examines within-semester assessment practices of two groups of students enrolled in two different academic programmes - Engineering and Commerce.

The survey comprised approximately 40 students selected from first year commerce subjects and a similar number chosen from second year electrical engineering students. All students enrolled in the most common subject combinations for the commerce programmor, in the case of electrical engineers, al students doing all the compulsory subjects were asked to participate. Of the 82 commerce students studying all of the selected subjects, 44 students (53.7%) agreed to participate in the survey. Of the 41 electrical engineers doing the compulsory subjects, 33 students (or 80.5%) agreed to participate. As the investigation proceeded, slight wastage occurred in both samples, namely three students from the commerce cohort and one student from the engineering group.

Students participating in the survey were asked to complete a 'Record of Study Time' for each of the fourteen weeks in first semester, plus one for the intra-semester vacation. This diary was a modified version of that used in the 1975 survey. These records were collected from each student at weekly intervals during tutorials.

In week 13, students were given a questionnaire asking for information about the level of interest in their subjects, their opinions of the workload, more details about the character of the assessments, the feedback they received from them and the purpose of those assessments.

New Zealand Studies of Workload

Scope, Sample Size and Survey Instruments

This section examines New Zealand studies of workload. The information on which this adumbrative account is based was derived from papers circulated at a symposium sponsored by the University Teaching and Research Centre (V.T.R.C.) at Victoria University of Wellington, to discuss in-term assessment, student workloads, and methodological problems associated with such rsearch. The Conference was attended by staff representatives from all the New Zealand universities, delegates from Student Associations and two staff members from overseas Universities.

Canterbury:

The Education Research and Advisory Unit (E.R.A.U.) study at Canterbury was restricted to the Faculty of Arts and arose from a request by the Dean for systematic information on aspects of workload both formal and informal. The study adopted both a normative and a problem oriented approach. On the one hand, an attempt was made to calculate the mean hours of work actually completed by students and on the other, to identify courses contributing to workload problems. A questionnaire was administered in class to a survey population of 2,500 Arts students. Response rates were poor, about 55% overall, representing approximately 70% full time sutdents and 40% part time students. The relationship between assessment and workload became apparent when students were asked to provide a typical figure for their weekly hours of study in each of the subjects. This suggested that their mode of working was related to the frequency of assignment requirements, ie. "they tended in one week to spend 20 hours on English, and the next week 20 hours on History".

Other items in the questionnaire explored student perceptions of their actual workload, and whether they were experiencing problems in the management of their workloads in any of their subjects, and if they were, what contributing factors could they isolate.

Staff opinions were canvassed concering how much time they felt a student allocate to formal class attendance and how much time they thought in reality students were apportioning to prescribed contact sessions. Hunter reports that:

> "The staff all thought the students were doing either none of the preparation they were expected to do or a very small proportion. And what the students have actually told us is quite different", and then goes on to say "So the staff have obviously got a wrong impression of what the students are doing".
>
> (Hunter quoted in UTRC Conference Proceedings 1974:12)

Waikato:

A survey, initiated by the Committee on Assessment, was conducted in 1972 to establish the range of assessment workloads' operating for individual students in the university.

The survey studied the workloads of 39 students representing, at that time, one fifteenth of a full time students in their first year at university, randomly selected by the Registry but in proportion to enrolment. The sample contained the following representation by the schools of study:

Education	14
Humanities	5
Management Studies	2
Science	9
Social Sciences	9

A summary was made of the assessment workload for each student. This included the name of courses taken and the assessment loading for each course under six general categories.

a Final Examination % weighting for each

b	Supervised Tests/Term Examination	Number/paper % weighting for each Time commitment for each
c	Essays	Number/paper % weighting Number of words
d	Practical Tests/* Written exercises	Number/paper % weighting Time commitment
e	Research Reports/ Seminars	Number/paper % weighting Time commitment
f	Other	

*In the report it was noted that "to enable quick comparisons to be made of the relative assessment workloads of individual students, some of the categories in the original document were collapsed. On reflection, however, it was probably unwise to combine the categories 'practical tests' and 'written exercises'."

The report of the survey presented a summary of each student's assessment workload and drew attention to several specific findings.

A wide range of weightings allocated to similar assessment components was reported. For example, if you looked at the percentage weighting for a one hour supervised test or term examination, it ranged from 5% to 25%. Similarly, with essays, the percentage allocation ranged from 7% ro 30%.

Otago (Students' Association Study):

In response to concerns expressed by students regarding workloads and the newly instituted internal assessment practice which constituted a departure from the more traditional modes of conducting assessment, a study was intitiated by the Students' Association to gauge student opinions of this alteration in procedure. The Arts Faculty chose not to participate in the investigation, maintaining that review procedures to ascertain the success or deficiencies of this new arrangement were to be initiated at the end of the three year experimental period, rather than during the course of the trial period.

A questionnaire was administered to a random sample of 615 students (approximnately one sixth of the Arts enrolment in June). Response rates were exceedingly low owing both to distribution problems and to the inadequate briefing of questionnaire recipients (23%). A follow up study of the class representatives yielded better results.

At the same time a questionnaire was circulated to heads of department and a request was made for copies of course outlines and both prescribed and suggested readings for all courses so as to derive an estimation of the formal workload perceptions held by staff. Information about staff response patterns was not provided.

McLeod's summary of the Otago project is sketchy in the extreme. The data collected, whilst limited and statistically invalid, was not processed owing to a lack of facilities. Nevertheless, the value of the exercise, according to McLeod, lay with the spin-off effect of ... "getting the Arts faculty to realise there was a problem".

Victoria (Students' Association Study)

The University of Victoria introduced a series of changes to in-term assessment arrangements and established the credit point system in 1968. Representatives of the Students' Association sought to appraise the ramifications of these changes, and in 1972 their Education officer undertook a university-wide investigation. The method of gauging student opinion was somewhat haphazard.

In the end, some 2,000 questionnaires were returned representing approximately 50% of the full time student population. Clarke contends that the capacity of a student association to diagnose problems is constrained by limited resources and the brief summary offered does not claim to be an objective scrutiny of the consequences of this change in institutional practice. Clarke comments on the difficulties facing the researcher in this field.

> "How do you gauge this sort of subjective pressure that someone feels and that places stress on them, and that tends to lead them to have sleepless nights, and this sort of thing? That was the other great problem with this particular survey. The results of the survey were not at all conclusive. It found that there was a spread of workloads in all Faculties from about 20 hours to about 70 hours, with the vast majority in the 30-50 range, and overall most of the Faculties came out with a medium workload of 41 hours.
>
> (Clarke quoted in U.T.R.C. Conference proceedings 1974:16)

Massey

The origins of the Massey investigations are largely analagous with those reported at Otago and Victoria where students had indicated that the problems of workload had been heightened by the use of in-term assessment, and compounded by an increase in the problem of clashing assignment dead-lines, making it difficult for students to plan their work distribution.

Fraser, a sociologist at Massey, outlines a more varied and imaginative strategy for investigating the reality of workload and its effects. The preferred methodological stance is descriptive and inductive using case studies, questionnaires, open-ended interviews, all designed to illuminate issues that emerge in the course of study. Fraser comments on the value of this approach in the following:

> "I think the great merit of the survey type strategy is to establish two things: one is what sorts of problems are the students - that is the learning community - experiencing with a view to proceeding further to in-depth studies. But the second thing is to try to establish some baselines from which you can proceed to do at least two things: one is to interpret what you find and, two, have some sort of basis for carrying out whatever ameliorative or remedial sort of strategies deemed to be appropriate by the members of the community involved."
>
> (Fraser quoted in U.T.R.C. Conference Proceedings 1974:17)

and later he observes:

> "In essence, then, what we have achieved is a very initial and preliminary sort of investigation of the problem. The interest of it to the other members of the working party may be the strategies that we tried to employ get maximum response from those people who had been selected for participation in the study and, wherever possible, make use of a more open-ended interview-type technique to gain greater understanding and information about the problems that arise when a person feels constrained to put in a figure or put a circle around some sort of fairly closed type of item in a survey questionnaire."
>
> (Fraser quoted in U.T.R.C. Conference Proceedings 1974:18)

In this study questionnaires were administered to a sample of students numbering 150 in all who had been selected by the heads of departments on the basis of the following criteria:

- a reasonable sex ratio
- a cross section of students from first year to third year with proportionately more third years
- a sample of student performances based on previous academic results - ranging from the 'good', 'not so good', and 'pretty lousy' student

Respondents were then invited along with student representatives in the Social Science Faculty, and faculty members, to participate in a research group ('enlarged community') by attending a series of 'hearings' conducted over a period of four weeks, and Fraser observes that the outcomes of these hearings provided "a fruitful source of information about the actual problems, rather than the problem arising from the averaging and aggregating of the results obtained from questionnaries". (1974:17)

Staff were questioned about their expectations regarding:

- work
- what sort of assignments they set, and
- the extent of the load facing students

In addition, an attempt was made to ascertain the relative weightings of the different components of assessment used.

Fraser observes of the findings:

> "Workloads varied considerably between departments. Secondly, students found that the expectations on the teacher for the work they were supposed to do were grossly out of line in departments and, thirdly, that one of the key problems as far as the students were concerned, was not so much the total amount of work expected, but the way the work tended to become 'impacted' at particular points during the term and in the academic year as a whole."
>
> Fraser quoted in U.T.R.C. Conference Proceedings 1974:17)

Victoria

A series of investigations has been undertaken at Victoria since 1973. The first movement arose in the Faculty of Commerce and Administration and the study conducted was modelled along the lines of the Monash studies. Time and resource constraints limited both the depth and breadth of issues canvassed. Further, recognising the tight production schedule, student perceptions of workload were not explored. The data gathered was obtained from staff and embraced the following:

- the number of contact hours for lectures, tutorials and seminars
- the sort of activities staff expected the students to undertake in a tutorial
- an estimate of what staff would expect the preparation time to be for tutorials and lectures
- the number of assignments and their assessment weighting, and
- a list of tests and assignments and scheduled dates for submission/ examination

The data indicated that for courses of similar credit value there existed marked disparities in work expectation. In addition, it was evident on the basis of information gathered concerning assignments and tests, that there were periodic overloads facing students. Clift comments:

> "This drew the attention of the Faculty to the need to improve liaison between course people as regards their assignments dates."
>
> (Clift quoted in U.T.R.C. Conference Proceedings 1974:19)

Clift argues that the value of the study, (which he described as "simply a portrait of the requirements of the course by the staff") lay with the realisation gained by staff of the demands confronting the student and hence the need for ameliorative action. (Clift quoted in U.T.R.C. Conference Proceedings 1974:19)

A second study, restricted to the Science Faculty was initiated in 1974. The origins of this survey can be traced in part to the concerns aired by some members of the Professorial Board that existing workloads had taken the "joy out of university life". (1974:19). Staff had argued that student participation in extra-curricular campus activities had declined and that existing demands should be reviewed. The Science Committee established a sub-committee comprising three members of academic staff, three students, and a representative of the Tertiary Teaching Unit to undertake the study. Questionnaires were circulated amongst staff and students, and sought to isolate areas in which workload difficulties arose.

A third project was conducted in the Arts Faculty. A committee was convened to examine student workload problems and in-term assessment. Owing to reported shortcomings in the questionnaire, the reader is left with the impression that little was accomplished.

General Findings:

An attempt is made to capture in general terms the main findings reported in the studies reviewed.

- Clift and Thomas (1973) report that students in Arts subjects devoted from 46 to 51 hours per week on academic work in their first three years but this dropped to 36 hours for students in their fourth year. The processed diary/work analysis schedules inidicate that the 'typical' student spent 7 1/2 hours per day on study; 4 hours on some other activity, 8 hours on sleep, 3 hours on routine activities (eating, dressing) and 1 hour on travel. The 7 1/2 hour allocation on study consisted of approximately 2 hours in class, one hour in preparation and follow up work, 3 hours spent on assignment work and an hour or so on general study. These figures represent averages. Wide differences exist between individual students and between the figures reported in other studies.

- Students in different courses appear to have different frames of reference, different expectations of what is 'heavy' or 'light'

- Differences between programs and between courses make it difficult to determine what represents an acceptable or tolerable workload in a particular situation

- There are considerable variations in workloads required by different courses of the same credit point value

- Many workload problems are produced by the competing demands of courses leading to an impacting of requirements for assignments, assessments and examinations

- Assignment deadlines or scheduled examination dates are a major influence on over-all patterns of workload

- Lecturers assume more knowledge on the part of the student than the student in fact possesses

- Students adopt varying approaches to work and develop different work patterns

- Students have varying levels of interest and motivation and different perceptions of the subjects they study

- Practical work often involves considerably more time than is scheduled for it

- Lecturers generally do not know or do not take into account what is being done by others teaching the same course

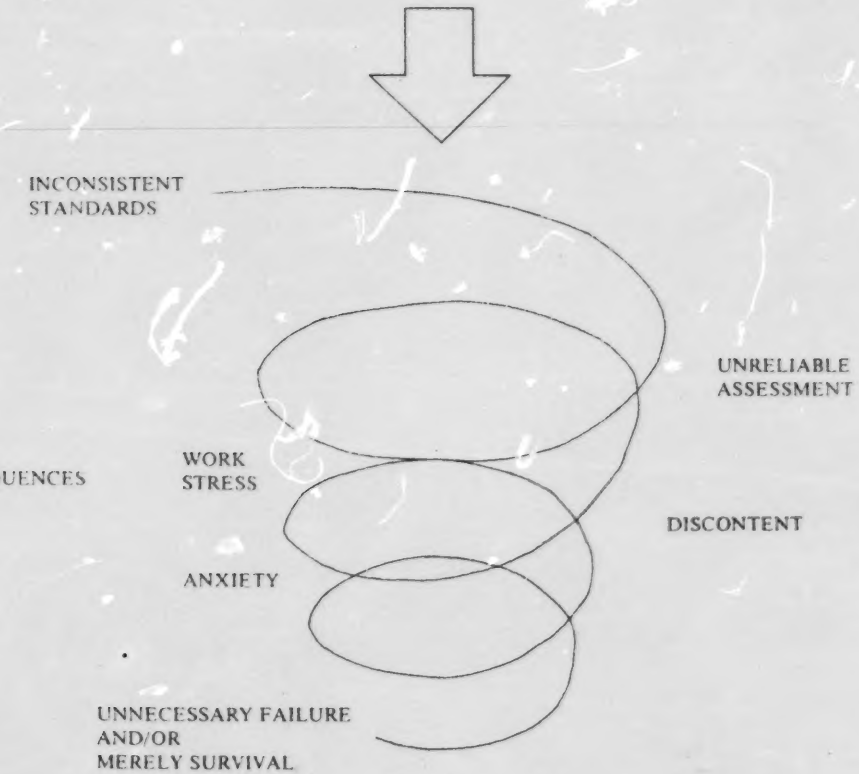
- Unrealistic workload demands coupled with content saturation in some semester units act to overwhelm the student and produce anxieties

- The preparation of assignments absorbs a considerable portion of the students' time and owing to deficiencies in study methods and lack of facility in essay writing, this time allocation is not used judiciously

- Students indicate different patterns of preference for alternative modes of assessment, and these orientations appear linked to the students' area of specialism. For example, whilst Commerce and Engineering students in the Paxton (1976) survey revealed a first preference for a combination of in-term assessment, and terminal examination, the weightings provided in their second preferred choice

FIGURE 1. Problems and Consequences

	DIRECTION	CONSISTENCY	FEEDBACK	PLANNING
	Description of Problem	*Description of Problem*	*Description of Problem*	*Description of Problem*
PROBLEMS	. poorly defined course requirements . ambiguous instructions	. inadequate direction to tutors and students about requirements . inadequate provision for checking standards	. assignment return too late to be of any assistance . inappropriate feedback	. unrealistic assignment expectations . content saturation providing little time for student review/reflection



(Adapted after U.T.R.C. Handbook 1977 1.3/1.7)

suggest that Commerce students favour in-term assessment, and its attendant pressures, more than the Engineering group which generally would support terminal examination in preference to only in-term assessment. These preferences may be relevant to workload problems.

- Student ratings of the methods and purpose of assessment as they perceive them to function at the present, and as they would like to see them in an ideal situation, raise the vexed question of the distinction between assessment for diagnosis of weaknesses, and the related feedback provided, as in formative evaluation, and assessment for credit, ie. summative evaluation as expressed in the level of grade attained. Assessment for the purposes of professional certification is an important albeit subsidiary concern when juxtaposed against assessment as ar aid to the individual's learning and as a goad to intellectual growth

- Workload problems are often the result of student inadequacies or of factors in the students environment, eg. personality clashes, traumas at home, financial handicaps, and social difficulties or of the goals that student set for themselves rather than the requirements of the course.

- Hours of work do not correlate with level of performance

Workload in Context of Wider Issues:

One of the concerns of this paper has been to draw out and separate the threads that have emerged from the various studies. Most of the studies reported here have sought to avoid operating 'in vacuo' and have viewed workload questions in the broader context of arrangements for teaching, learning and assessment. Some small scale investigations have tended to limit their discussion to questions of load/stress and to develop recommendations for improvement without due consideration of the context in which these anxieties have arisen.

This section seeks to provide the reader with a focus to view questions of workload.

A useful preliminary step derives from a consideratin of an attempt to depict factors that contribute to staff and student discontent with assessment procedures (U.T.R.C. 1977:1.2-1.8). It cannot be pretended that this approach comprehends all variables relevant to the problem not that there would be wide agreement about the overall framework. Nevertheless, the simplicity of the approach recommends it, and provides a valuable starting point.

The problems/consequence portrayal (Figure 1) captures a constellation of variables that interact in any subject situation. Such problems as have been identified (those listed represented only some of the sources of continuing frustration) and the various consequences for both staff and students, constitute a waste of teaching learning resources.
As the U.T.R.C. advisory paper indicates:

> "They (read problems) create discontent with the course, increase anxiety and work stress as well as provide unreliable assessment resulting in inconsistent and inaccurate academic standards".
>
> (U.T.R.C. 1977:1.2)

As an interesting aside, the current debate surrounding the perceived inadequacies of literacy amongst university students repays attention.

All too frequently academic staff censure schools for producing 'deficient' tertiary entrants, and neglect to re-consider and/or clarify the linguistic demands made by universities upon students. (Clanchy 1978:21-23). Roe (1975) in his account of the use and misuse of teaching and learning materials in institutions of higher education identifies a number of areas of inefficiency in universities as it relates to instructional practice.

It is perhaps salutary to remind ourselves how inadequate most studies of workloads are, together with the unrealistic nature of staff expectations of students. Thus, as Miller recalls in his review of Roe's text, during a single week of term time any one student made from:

- 0 - 8,567 words of notes during private study
- 128 - 5,190 words of notes at formal classes

and received from

- 210 - 21,254 words of hand out material
- 1 - 355 references in hand out material
- 0 - 61 references in formal classes

(Miller 1977:40)

The plight of the student is nicely grasped in the following remark:

> The situation of students, as revealed in this investigation, as far as teaching and learning materials are concerned, was an odd mixture of unmanageable affluence and disastrous poverty. The affluence was the swamping of students with handouts, book lists, and their own thousands-of-words-a-week of notes and photocopies; the poverty was the plight of students given references to materials which might or might not be crucial, sometimes without proper reference details, the materials being unavailable (or one copy in the library for 100 students). The result was often, amid the confusion and uncertainty, a comparative neglect of the ready-to-hand affluence and a desperate desire for the scarce materials.
>
> (Roe 1975:77)

The self-reinforcing cycle of wastage implied by the foregoing obtains for a complex of reasons but in part because of the uncompromising assumption of some academics that students should necessarily be already equipped to handle their studies upon their arrival at University. As Roe remarks:

> To teach students on the basis of any assumption other than that they already possess all the learning skills is to spoon feed them; they must sink or swim. The academic with such convictions is unlikely to concern himself with the efficient management of teaching except in the sense of scattering pearls before swine. He is unlikely to concern himself at all with the management of a student's learning, since it is none of his business.
>
> (Roe 1977:14)

A further problem which is related here concerns styles of learning and methods of instruction.

With the growth of participation levels in higher education, the social composition of student populations has altered. Against this backdrop of changed circumstances, in which more flexible admissions policies allow the entry of student groups previously excluded, is the emerging recognition of marked variations in learning styles adopted by students. (Knights & McDonald. 1978; Miller, 1978 1-9).

Hudson (1968) argues that students embrace different styles of studying which accord with the cognitive distinctions between convergent and divergent thinking. His description of a 'syllabus-bound/syllabus-free' dimension has been followed by other similar distinctions. For example, Miller and Parlett's (1974) identification of 'cue-seekers', 'cue-conscious' and the 'cue blind' in their recent explorative account of student attitudes to assessment procedures. Miller (1978) in an article dealing with learning styles employs the thinking of Pask (1975) as a backdrop to his descriptive examination of the processes of learning adopted by students. Pask (1975) and his colleagues devised a series of experiments which can be used to distinguish two basic learning strategies (ie, the way a student chooses to work through a specific learning task in the light of its perceived demands) among university students; namely SERIALISTS or step by step learners and HOLISTS or global learners. The former 'learn, remember and recapitulate' a body of information in much the same way they had learnt it - in a linear fashion - Serialists find it difficult to cope with irrelevant or peripheral information unless they have developed a sophisticated storage/retrieval capacity. On the other hand, holists 'learn and remember and recapitulate as a whole'. They are more likely to grasp general principles than are serialists, but their ability to store and recall detail is not as accurate.

The significant variations in approach adopted by the student, according to Pask -

> ".... reflect an individual's cognitive style and teach him, in free learning conditions to prefer a certain type of strategy, ie. to direct his attention in a specific way to different parts of the learning task, to ask specific sorts of questions, to assimilate material by specific types of self-explanation and to pose specific sorts of hypotheses...."
>
> (Pask:1975)

The work of Entwistle and his colleagues at Lancaster (1974) is equally significant in demonstrating the need for examining teaching and learning practices in higher education as a whole. The 1974 project points to the existence of a wide spectrum of student competencies. The question of divergent learning approachs pursued by students in their work/study habits is illuminated in the following excerpt:

> "Some students are stable, confident and highly motivated by hope for success, while others are anxious, uncertain of themselves and haunted by fear of failure, and yet both groups are capable of high levels of academic performance. The interview data take the differences even further. Students of differing personality and motivational types not only tackle their academic work in different ways but, from their descriptions of their university experience, they evidently perceive themselves to be in differing environments."
>
> (Entwistle, Thompson & Wilson 1974:393)

Research findings attest to the validity of these differences, to the extent that differences exist in levels of interest, motivation, prior levels of achievement, cognitive capacities, and in the amount of time students require to complete the same piece of work (Smith 1977).

In seeking to relate these findings to the issues of workload, it is often remarked that overload complaints originate from the least competent or the struggling student. Empirical data is insufficient to validate or reject this assumption, but even if it were accurate, the problems of workload do not vanish nor is the responsibility of staff in regulating both flow and demand of work lessened (Roe 1974). Similarly there is a belief, frequently echoed, that part of the workload problems for students are their "own fault" due to the students' inability to use and distribute study time systematically.

Although these comments on the work of Pask and Entwistle et al; are brief they do raise an important question, namely, *To what extent should course structures strive to accommodate individual differences in styles and approach among students?*

At present, students are obliged to respond to a fairly standard diet of instructions, embracing formal contact (lecture/tutorial/laboratory sessions) and independent private study. The research report compiled at the University of Newcastle by HERSU (1976), indicates that such prescriptions produce varying degrees of indigestion and that alternations to the sequence and rate of ingestion, or alternatively, a re-think of the 'actual constituents' of the diet, may serve to arrest some of the problems isolated in the report. Clearly, the analogy of the varying patterns of digestion provided by the present set of procedures, which relegate selection of teaching methods to the status of an after thought, is both cogent and applicable to many campuses. Whilst it would be unrealistic to expect a member of the teaching staff to design a study program attuned to the interests, motivations and learning styles of each student enrolled in a particular course, it is not unreasonable to expect a more imaginative and sensitive approach to the selection of instructional techniques. In this regard, it may be beneficial to offer alternative activities and/or resources (for example, guidance on reading accompanied by self-study questions, computer assisted instruction, and negotiated learning contract) thereby enabling students who find difficulty in responding to a particular mode of instruction to experiment with alternative styles.

Conclusion:

It is not easy to write a conclusion to a paper such as this. Some of the research in the area is disappointing because of methodological shortcomings, conceptual limitations and, to say the least, equivocal results. Yet there has been research which provides a model for such investigations and the findings of which can be regarded with confidence. Perhaps most encouraging of all is simply the fact that the concern is felt and the questions are being asked. In the long run that fact alone should help to improve the teaching-learning experience.

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